

suffered from intermittent spasms more than four hours.—ERWIN F. SMITH, *Bot. Laboratory, Univ. of Michigan.*

An exchange club for Thallophytes.—The following official communication was received too late for the April number. It was sent in response to a suggestion by the editors of this journal that the arrangements being made to establish a botanical exchange club might well be extended to include the lower orders of plants, or else a similar but independent organization might be effected for that purpose, greatly to the advantage and convenience of many botanists:

SIRS: I am authorized by the Commissioner of Agriculture to say that the same arrangements made with the committee of the A. A. A. S. Botanical Club for facilitating exchanges of plants may be extended to include the thallophytes.

I shall take pleasure in carrying out the purposes intended.

Very respectfully,

F. L. SCRIBNER,

Dept. of Agriculture, Section of Veg. Pathology.

Washington, D. C., March 31, 1888.

As the letter shows, Commissioner Colman, with much liberality, impartially extends the facilities of his department to further the interests of the several classes of collectors, and Prof. Scribner kindly offers to undertake the same supervision of the thallophytes that Dr. Vasey gives to the higher plants. It now remains with the botanists of the country to arrange and perfect plans to put the system of exchanges into successful operation.

EDITORIAL.

THE ADVANTAGES of an organization to facilitate the interchange of herbarium specimens are so numerous and so obvious as to require no argument. The wisdom of the Botanical Club of the A. A. A. S. in setting a scheme on foot for supplying the need of American botanists in this respect meets with general favor. Although not so specified in the reports of the club, and of its special committee yet it is evident that only flowering plants and vascular cryptogams were kept in view by the promoters of the plan. The number of collectors and students of fungi in the United States is large, and the advantages of securing systematic exchanges among them are quite as great, if not greater, than among collectors of higher plants. So far as we know, the matter has not been agitated; but, feeling the need of some such facilities ourselves, and thinking others might also, we took the initiative by securing the good offices of Commissioner Colman and Prof. Scribner, as stated in another part of this number. We hope the subject will be discussed by those who are interested, and plans developed for eventually putting the matter into successful operation. Whether it is best to have only one exchange

club, to be divided into two sections possibly, or to have independent organizations for the higher and lower plants, must be determined. The lack of a suitable printed check list of thallophytes for use in marking desiderata is an obstacle to be surmounted. The meeting at Cleveland will give a good opportunity for arranging details and perfecting an organization, especially if there has been discussion through the journals in the mean time.

THE PROCESS of imbedding in paraffin seems heretofore to have been looked upon as only suitable for tissues of considerable resistance. In both editions of Strasburger's *Botanisches Practicum* occurs the phrase "für etwas härtere und bedeutend härtere Objecte empfehlen sich . . . und Paraffin." As the last edition was issued in 1887, it is not surprising, therefore, that the *Botanisches Centralblatt* published in June of 1887 an article by Dr. Schönland, of Oxford, giving details of a process for imbedding delicate objects in paraffin,¹ for there does not seem to have been any record of success in this direction previously. We have been informed, however (and in response to an inquiry Dr. Farlow confirms the statement), that for two years and a half advanced students in the cryptogamic laboratory at Harvard have successfully applied the zoölogical methods of imbedding to plants. Certainly, no one could have suspected this from the expressions in the papers published by two of these gentlemen. Mr. J. E. Humphrey in his paper on *Agarum Turneri* says:² "Although this seems hard treatment [*i. e.*, imbedding in paraffin and mounting in balsam] for an algal tissue, the tough, leathery character of the frond enabled it to withstand well, and very satisfactory results were obtained." In the next paper of the volume cited, "On the Morphology of *Ravenelia glandulæformis*," by Mr. G. H. Parker, p. 209, we read, "Moreover, the density of the imbedding material [paraffin] was such that it intensified the shriveling" [*i. e.*, the shriveling from drying, *herbarium material* being used].

Certainly, these are not expressions which would encourage one in the attempt to imbed *delicate* tissues! But we are very glad to give credit to these students, who, we are assured, used the process in all essential respects the same as that described in the January GAZETTE so long ago as the winter of 1885-6. Let it be borne in mind, however, that the essential features of Dr. Moll's results are perfect preservation of the protoplasmic contents, absolute freedom from shriveling and perfect penetration of the material by paraffin.

IT IS WITH PLEASURE we note the evident tendency of our systematic work. It is rapidly becoming more and more specialized, and hence is sure to become more and more critical. Not so very long ago, a systematic botanist who made any pretense to distinction was expected to be

¹ See abstract in this journal, xii (1887), p. 172.

² On the Anatomy and Development of *Agarum Turneri*.—Proc. Am. Acad., 1886, p. 202.

able to pass an infallible judgment upon any plant from Clematis to Quillwort. Fortunately, this day of smattering seems to be passing away, and systematists, even among phanerogams, are confining their attention more and more to certain groups. The consequence must be a more exhaustive study of these groups, an elaboration of all possible means of classification based upon minute as well as gross structures, a complete disentangling of synonymy, and establishing all claims of priority—in short, that detailed presentation of the subject which is necessary if systematic botany proposes to be a progressive science. Even now manuals are not the work of one man, and they will become less and less so, until the best manual will be a very composite affair in the matter of authorship. It is commonly supposed by the uninitiated that every botanist who is more or less well known can unerringly determine “off-hand” any plant that is presented to him. It would be far more comfortable for some botanists if the “uninitiated” could be made to understand that this is an entirely false supposition. Of course, there is a host of plants that every botanist knows, but such are not the ones most frequently thrust at him. He is called upon to decide upon critical cases—some species, for instance, in a difficult genus of most perplexing species. The confession might as well be made that every botanist, however well-informed, has to “dig out” all such plants from the books, and is in no case ready with an “off hand” opinion except in the group which he may just then be studying. A man may even have written a monograph, but presently he will have to use it in the determination of plants like any one else. There has been an astonishing amount of careless “off-hand” naming done by botanists whose names carry weight, and who blundered for the simple reason that they were not familiar with the subject. Specializing avoids all this, and critical points should always be submitted to some botanist who is paying special attention to the group. A botanist should no sooner think of sending a Composite to a man chiefly familiar with *Carex* than a zoölogist now thinks of sending a Sea-urchin to a specialist in Crustacea.

OPEN LETTERS.

Is the strawberry poisonous?

In reference to Prof. Prentiss' “open letter” under the above title (this volume, p. 19), the cases recorded are evidently pure idiosyncrasies, due not in the least to the peculiarity of the fruit, but to the peculiarity of the sufferer. The precise nature of these idiosyncrasies is very obscure, but they are certainly not due to mental influences, and the interesting circumstance that in the first case the rash always commenced *behind the ears* is evidence that irritation was caused to the ends of the pneumogastric nerve, which is connected with the skin only by a twig